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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,879	06/29/2001	Paul Glatkowski	38572.0024	4705

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WASHINGTON, DC 20001

EXAMINER
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YOON, TAE H

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/894,879

Applicant(s)

GLATKOWSKI ET AL.

Examiner

Tae H. Yoon

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 23-49 and 52-103 is/are pending in the application.
- 4a) Of the above claim(s) 55-75 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-49, 52-54 and 76-103 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

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Note new examiner.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 24 and 77 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recited various aspect ratios such as a range within a range are indefinite.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23-36, 38-49, 52-54, 76-87 and 89-103 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bower et al (US 6,630,772).

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Bower et al teach the instant composite comprising a polymer and oriented and aligned carbon nanotubes obtained by shearing at col. 4, lines 33-38, col. 8, line 52 to col. 9, line 11 and in example 2. An aspect ratio of more than 1,000 is also taught at col. 3, lines 18-20. Said composite inherently possesses the recited properties since the components and a method of making are same as in the instant invention.

Thus, the instant invention lacks novelty.

Claims 23-49, 52-54 and 76-103 are rejected under 35 U.S.C. 103(a) as obvious over Bower et al (US 6,630,772) in view of Smalley et al (US 6,683,783).

The instant invention further recites other thermoplastic polymers over Bower et al (col. 12, lines 1-2). However, the use of the instant thermoplastic polymers in making composites with carbon nanotubes is well known as taught by Smalley et al, col. 37, line 66 to col. 38, line 1.

It would have been obvious to one skilled in the art at the time of invention to utilize the art well known thermoplastic polymers of Smalley et al in Bower et al since Bower et al teach employing a thermoplastic polymer in obtaining a carbon nanotube composite and since the use of the instant thermoplastic polymers in making composites with carbon nanotubes is well known as taught by Smalley et al.

Claims 23-49, 52-54 and 76-103 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Smalley et al (US 6,683,783).

Rejection is maintained for reason of record with following response.

Applicant asserts that having carbon nanotube aligned and oriented in a direction perpendicular to an electric field does not mean that the carbon nanotubes possess electromagnetic shielding properties. However, it is applicant's opinion and applicant failed to show such assertion.

Applicant asserts that the instant carbon nanotubes in the claimed composite to have a specific aspect ratio, orientation and alignment. However, Smalley et al teach the instant aspect ratio such as 769:1, and orientation and alignment. Thus, the instantly recited properties are inherent. Besides, the instant claims do not recite any particular orientation and alignment of carbon nanotube, and thus any orientation and alignment would meet the invention.

Smalley et al teach composites and RF shielding application, and thus composite articles such as sheets made by extrusion or calendering used in stereo audio speaker or other electronic products would be inherent practice to one skilled in the art. Applicant asserts that a sonar dome does not require an extrusion, however, said sonar dome is formed by impregnating layers of carbon, not by carbon nanotubes of Smalley et al. It would be impossible to use said impregnation method with carbon nanotubes.

Again, Smalley et al teach the instant aspect ratio such as 769:1, and orientation and alignment explicitly (col. 3, lines 30-32, col. 21, lines 35-37 and col. 29) and implicitly (RF shielding application) contrary to applicant's assertion.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae H. Yoon whose telephone number is (571) 272-1128. The examiner can normally be reached on Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tae H Yoon  
Primary Examiner  
Art Unit 1714

THY/October 13, 2005